

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY  
(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/DK2004/000568

International filing date (day/month/year)  
27.08.2004

Priority date (day/month/year)  
02.09.2003

International Patent Classification (IPC) or both national classification and IPC  
G01N15/12

Applicant  
CHEMPAQ AS

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/DK2004/000568

**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/DK2004/000568

**Box No. II Priority**

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

**Box No. V Reasoned statement under Rule 43*bis*.1(a)(I) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	2,8-10
	No: Claims	1,3-7
Inventive step (IS)	Yes: Claims	
	No: Claims	1-10
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

2. Citations and explanations

**see separate sheet**

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**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

Reference is made to the following documents:

D1: GB 1 457 657 (COULTER ELECTRONICS) 8 December 1976 (1976-12-08)

D2: US 3 801 904 A (HOGG WALTER R ET AL) 2 April 1974 (1974-04-02)

D3: US 3 502 993 A (SIEMENS AG) 24 March 1970 (1970-03-24)

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

The document D1 which refers to classifying particles into discrete particle-size ranges for determining their size distribution by means of a Coulter counter discloses the following technical features of claim 1 (the references in parentheses applying to this document):

A pulse height analyser for determination of the pulse height distribution of electronic pulses (page 1, l. 32-52) comprising  
a set of comparators with a common input for analogue to digital conversion of the electronic pulses ( p. 2, l. 63-95; p. 3, l. 25-40); ,  
a set of latches wherein the inputs of the latches are connected to the outputs of respective comparators for recording passage of the corresponding threshold voltages by the rising edge of a pulse (p. 3, l. 41-62),  
a priority encoder connected to the latch outputs for determination of a pulse height category consisting of pulses with a pulse height within a pulse height interval defined by respective threshold voltages (p. 3, l. 2-p. 4, l. 8), and  
a micro controller that is adapted to count the number of pulses within each pulse height category (p. 4, l. 93-128).

2. Likewise, dependent claims 3-7 are not novel in the sense of Article 33(1) and (2) PCT, since their technical features are also anticipated by D1 (c.f. passages cited above and in the search report; p. 2, l. 121-124: concerning claim 5 and p. 5, l. 82-87 concerning claim 6).

3. Dependent claims 2 and 8-10 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step (Article 33(1) and (3) PCT), see documents D1-D3 and the corresponding passages cited in the search report (D3: against sub-claims 2 and 9 in combination with D1), and present state-of-the-art knowledge of the skilled person (claims 8 and 10).

Documents D2 and D3 disclose:

D2: a pulse height analyser for analysing pulses from a Coulter device with a leading edge trigger;

D3: a pulse height analyser for Coulter device with variable thresholds of a digitising circuit to adapt to different absolute amplitude values.

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